

## **REMARKS**

This Response is responsive to the Office Action mailed April 28, 2010 ("Office Action").

### **Claim Rejections – 35 USC § 103(a)**

Claims 17, 20, 21, 23, 24, and 26-30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Stevens (US 2002/0155329) in view of Monzyk et al. (US 6,503,298).

Amended claim 17 discloses a method for generating a hydrogen-rich reformat, the method comprising the steps of (1) reacting a hydrocarbon fuel in a catalyst bed comprising a reforming catalyst and carbon dioxide fixing material to produce a reformat comprising hydrogen and carbon dioxide, the carbon dioxide fixing material fixing at least a portion of the carbon dioxide in the reformat to produce an intermediate reformat; (2) removing hydrogen from the intermediate reformat by flowing the intermediate reformat through a first purification bed comprising an inert material having a high heat capacity and a hydrogen fixing material to produce a hydrogen-depleted gas and fixed hydrogen wherein the hydrogen fixing material comprises a metal hydride-forming material; and (3) releasing the fixed hydrogen from the first purification bed to produce a hydrogen-rich gas.

According to the Examiner, Stevens fails to explicitly disclose "removing hydrogen from the intermediate reformat by flowing the intermediate reformat through a first purification bed comprising an inert material having a high heat capacity." (Office Action, p. 3.) According to the Examiner, Monzyk teaches a method of purifying hydrogen for a fuel cell comprising "an inert material having a

high heat capacity (such as a porous substrate, col. 12 lines 48-52)." (Office Action, p. 4.) Further, according to the Examiner, "Monzyk explicitly teaches a porous support material for the sorbent which does not participate in any chemical reaction." (Office Action, p. 8.)

The following is the excerpt of Monzyk cited above: "The sorbent can be disposed as dense or porous layers on the flow channel walls. The sorbent can be directly coated on the flow channel walls. The sorbent could also be disposed on a porous substrate, preferably a thermally-conductive felt or thermally-conductive continuously porous foam." Col. 12, lines 48-52. Applicants respectfully assert that the above passage does not explicitly teach an inert material as in claim 17 of the present invention. As a result, reconsideration and withdrawal of this rejection of claim 17 and claims 20, 21, and 23-30 which depend from claim 17 is respectfully requested.

Claim 18 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Stevens (US 2002/0155329) in view of Monzyk et al. (US 6,503,298), as applied to claim 17, and further in view of Golben (US 5,250,368). Claim 18 is believed to be in condition for allowance by virtue of its dependency from claim 17. Applicants respectfully request reconsideration and withdrawal of this rejection of claim 18.

Claim 19 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Stevens (US 2002/0155329) in view of Monzyk et al. (US 6,503,298), as applied to claim 17, and further evidenced by Heung (US 5,958,098). Claim 19 is believed to be in condition for allowance by virtue of its dependency from claim 17.

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Applicants respectfully request reconsideration and withdrawal of this rejection of claim 19.

Claim 22 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Stevens (US 2002/0155329) in view of Monzyk et al. (US 6,503,298), as applied to claim 17, and further evidenced by Schiodt et al. (US 2001/0055560). Claim 22 is believed to be in condition for allowance by virtue of its dependency from claim 17. Applicants respectfully request reconsideration and withdrawal of this rejection of claim 22.

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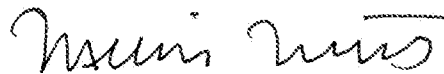
#### **Conclusion**

All of the stated grounds of objection and rejection are believed to have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

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Prompt and favorable consideration of this Amendment is respectfully requested.

Respectfully submitted,



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